Department of Energy
Golden Field Office
1617 Cole Boulevard
Golden, Colorado 80401-3393

April 27, 2010

TO: Distribution List

SUBJECT: Notice of Scoping – Northwest National Marine Renewable Energy Center/Oregon State University
Mobile Ocean Energy Test Berth Project
Newport, Oregon

The U.S. Department of Energy (DOE) is proposing to provide funding to the Northwest National Marine Renewable Energy Center (NNMREC)/Oregon State University (OSU), in Corvallis, Oregon for their proposed project to construct and operate a wave energy test facility, known as the "Mobile Ocean Test Berth" (MOTB). Pursuant to the requirements of the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500-1508), and DOE's implementing procedures for compliance with NEPA (10 CFR Part 1021), DOE is preparing a draft Environmental Assessment (EA) to:

- Identify any adverse environmental effects that cannot be avoided should this proposed action be implemented.
- Evaluate viable alternatives to the proposed action, including a no action alternative.
- Describe the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity.
- Characterize any irreversible and irretrievable commitments of resources that would be involved should this proposed action be implemented.

Project Location and Proposed Action

NNMREC/OSU has proposed to construct, deploy, and operate up to two MOTBs off the Oregon coast, approximately 2.0 miles off the coast of the city of Newport, Oregon. Each MOTB would be connected to a Wave Energy Conversion (WEC) device under test. An Underwater Sub-station Pod (USP) may also be included in the overall design and would serve to connect the

MOTB/WEC Devices. The MOTBs, WEC devices, and USP are referred to as the "proposed project."

The MOTBs would be operated within a one square-mile section of the Project Area shown in Figure 1. The Project Area would consist of a six square mile area, measuring 2 miles from east to west and 3 miles from north to south[1]. The MOTBs would serve as an integrated, standardized test facility for U.S. and international developers of wave energy, provide the critical infrastructure required to test and validate WEC devices, and allow developers to demonstrate the commercial viability of their technology. The MOTBs would provide WEC device developers with a resource to perform ocean testing of subscale and full-scale devices. The MOTBs would not be connected to the electrical grid on land, but instead would dissipate the energy generated by the testing of WEC devices through resistor load banks.

Each MOTB consists of a Power Analysis/Data Acquisition (PADA) device and an Adjustable Load Bank (ALB) contained on a standalone vessel on the order of 30- to 40–feet long. The MOTB hull design is based on the evaluation and analysis of ABS-approved materials and shapes. The design uses a composite hull with a boat shape, similar to the proven Navy Oceanographic Meteorological Automatic Device (NOMAD) style buoy used in the United States and Canada. The mooring system for each MOTB would consist of up to three anchors. The anchors would be either standard Danforth anchors or dead-weight anchors.

The PADA measures the WEC device's output voltage and current with respect to time at high sampling rates. The ALB dissipates the power generated from the WEC device. The NEPA analysis will also consider the use of an USP which would enable the power take-off cables from multiple test berth modules or WEC devices to be connected, and would enable the power to be delivered back to shore via a single subsea cable in future applications. The USP would either sit on the ocean bottom or float on the surface, depending on design specifics.

A variety of WEC devices could be tested with the MOTBs, but designs currently contemplated for testing fall into the general category of "point absorbers" or "oscillating water column" devices that can operate in the range of 150 feet of water." Each WEC device to be tested would include the device itself and a mooring system consisting of up to three anchors of variable configuration.

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[1] GPS coordinates for the corners of the Project area: NW = 44.697764, 124.148319; NE = 44.699034, 124.108056; SW = 44.65403, 124.145677; SE = 44.655299, 124.105439.

To support the MOTBs, associated monitoring equipment would also be deployed. This equipment may include Acoustic Wave and Current Profilers (AWAC), Acoustic Doppler Current Profilers (ADCP), Waveriders, acoustic hydrophones, plankton collection plates, water quality monitoring devices (dissolved oxygen, temperature, salinity, etc.), fish tag receivers, electromagnetic frequency monitoring equipment, etc.

The MOTBs and future Underwater Sub-station Pod would be designed for a maximum uninterrupted service life of 12 months.

Development of a Reasonable Range of Alternatives

DOE is required to consider a reasonable range of alternatives to the proposed action during the environmental review. The definition of alternatives is governed by the "rule of reason." An EA must consider a reasonable range of options that could accomplish the agency's purpose and need and reduce environmental effects.

The proposed action consists of DOE's decision to provide funding for the proposed project. NNMREC/OSU would reduce environmental effects through "applicant committed measures" incorporated into the proposed action. The no action alternative will also be addressed.

Probable Environmental Effects/Issues Scoped for the Environmental Analysis (EA)

The EA will address direct, indirect, and cumulative impacts of the proposed action, as well as the no action alternative. The EA will describe the potentially affected environment and the impacts that may result to:

- Air Quality/Meteorology
- Biological Resources
    - Benthic Habitat
    - Marine Vegetation and Algae
    - Plankton
    - Invertebrates
    - Fish and Reptiles
    - Marine Mammals
    - Birds
    - State Special-Status Aquatic Species
    - Threatened and Endangered Species

    - Essential Fish Habitat.
- Water Resources
    - Water Quality
    - Wave Characteristics
    - Wind and Current
- Aesthetics
- Cultural Resources
- Energy
- Marine Navigation
- Noise and Vibration
- Socioeconomics
- Recreational Resources

Public Scoping

This letter will be available to all interested state, local, and federal agencies to supply input on issues to be discussed in the EA. Agencies should identify the issues, within their statutory responsibilities, that should be considered in the EA. The general public and Native American Tribes are also invited to submit comments on the scope of the EA. As part of the process related to determining the scope of issues related to the Proposed Action, we request your comments or other information by May 28th, 2010. Please send your comments to:

Department of Energy
Golden Field Office
c/o Laura Margason
1617 Cole Boulevard
Golden, CO 80401

Or via email to: **laura.margason@go.doe.gov**

Public Scoping Meeting

DOE also invites all interested state, local, and federal agencies, Native American Tribes, and the general public to participate in a public scoping meeting to learn more about the project and provide comments. This meeting will be held in the **Hennings Auditorium at Hatfield Marine Science Center from 6:30pm - 8:30pm on Wednesday, May 5th at 2030 SE Marine Science Dr. Newport, OR 97365.**

This letter and the draft EA, when available, will be posted to the Golden Field Office electronic reading room for further reference:

http://www.eere.energy.gov/golden/reading_room.aspx.

Thank you for your participation in the NEPA process.

Sincerely,

Steve Blazek
NEPA Compliance Officer

Attachments:
Figure 1: Mobile Ocean Test Berth Project Area

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